

REMARKS

The claims are 31 to 68.

Claims 31 to 37 and 44 to 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Vanderhoff (U.S. 3,284,393).

This rejection is respectfully traversed.

Vanderhoff relates to a water-in-oil emulsion polymerization process.

However, the present invention does not employ polymer formation but rather employs an already existing polymer as a gelant e.g. see claim 34. Further, the presently claimed composition has, as its objective, reducing water permeability more than oil permeability in subterranean formations, which is a concept neither disclosed nor suggested by this reference.

Claims 31 to 37 and 44 to 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (U.S. 3,624,019).

This rejection is also respectfully traversed.

Anderson discloses a process for rapidly dissolving polymers in water by first dispersing them in a water-in-oil emulsion and later inverting the emulsion in water, which releases the polymer into water as a solution.

It is not seen where this reference discloses or suggests a composition for reducing water permeability more than oil permeability in a subterranean reservoir.

Moreover, it is not apparent how the Official Action comes to the conclusion that such property is inherently met by the reference composition and in any event, this reference is clearly inapplicable to the presently recited process claims 50 to 68.

Claims 31 to 37, 44 to 57 and 63 to 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Quintero (U.S. 6,204,224).

This rejection is respectfully traversed.

Quintero relates to a drilling fluid made of an oil-based invert emulsion or synthetic based fluid, a polyalkylmethacrylate copolymer as a viscosifying agent and an organophilic clay which acts as a suspending agent and additional viscosifier.

It is not apparent how this relates to the present composition and process for “reducing water permeability more than oil permeability” in a subterranean reservoir wherein an aqueous gelant emulsified in oil is injected into a reservoir.

There is no discussion in Quintero of reducing water permeability more than oil permeability in a subterranean reservoir and the assertion of inherency is untenable since it is not seen that any composition of Quintero has this property.

The rejection relies on the disclosure of column 3, lines 39 to 43 of Quintero however, nothing is disclosed or suggested about an aqueous gelant emulsified in oil for any purpose no less than that recited in the present claims. This disclosure is only concerned with good gel strength and suspension characteristics for carrying solid particles.

Accordingly, the rejection on Quintero is untenable and should be withdrawn.

Claims 31 to 37, 44 to 57 and 63 to 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (U.S. 4,248,304).

This rejection is also respectfully traversed.

Phillips ‘304 concerns a method for polymerizing a monomer for forming a water-in-oil emulsion e.g. claim 1 of the reference. There is a great difference between monomers and polymers and the present invention employs a manufactured polymer, e.g. see page 3, lines 17 to 24 of the present specification.

This reference’s disclosure of polymerization in water-in-oil emulsions is remote from the present claims which do not involve polymerization but the use of already formed polymers in achieving the reduction of water permeability compared to oil permeability in a subterranean reservoir.

Accordingly, the rejection on Phillips ‘304 is untenable.

Claims 31 to 37 and 44 to 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (U.S. 4,283,507).

Phillips ‘507 relates to a method of hydrolyzing polymers e.g. column 1, lines 9 to 15. Further, this reference relates to a method for enhancing hydrolysis of a polymer through a water-in-oil emulsion. The present invention does not deal with hydrolysis or methods of producing a

polymer but rather reducing water permeability more than oil permeability in subterranean formations.

Claims 31 to 38, 44 to 57 and 63 to 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Bleeker (U.S. 4,670,550).

This rejection is also respectfully traversed.

Bleeker relates to saccharide containing water and oil emulsions, however, no mention is made of reducing water permeability more than oil permeability in a subterranean reservoir nor is this necessarily inherently achieved.

The disclosure of Bleeker with regard to employing the aqueous system in “enhanced oil recovery operations” is in no way a teaching of reducing water permeability more than oil permeability in a subterranean reservoir nor is it clear what is meant by “enhanced oil recovery operations”.

Claims 31 to 37 and 44 to 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Dawson (U.S. 5,735,349).

The rejection is respectfully traversed.

Dawson relates to a method of modifying permeability of subterranean formations with a monomer mixture which forms a dispersion of water swellable polymer. The presently claimed composition and method do not involve such polymerization but rather reducing water permeability more than oil permeability in subterranean formations.

Claims 31 to 38, 44 to 57 and 61 to 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Sunde (U.S. 5,919,739).

This rejection is also respectfully traversed.

Sunde’s composition is intended to plug wells which is the opposite of the object of the present invention which is to reduce the water permeability while increasing oil permeability. Thus, it is clear that Sunde has absolutely nothing to do with the present invention.

There is no basis for assuming that oil permeability is enhanced more than water permeability or vice/versa in the express or inherent disclosures of this reference.

Claims 31 to 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Le et al. (U.S. 6,169,158).

This rejection is respectfully traversed.

Le relates to methods and compositions for hydraulic fracturing.

The Official Action relies on Le, column 6, lines 16 to 19 and Example 1. However, in both of these portions of the reference, there is described a polymerization process which has nothing to do with the present invention which employs an already produced polymer.

Nor is it apparent that any of Le's compositions reduce water permeability compared to oil permeability as presently recited.

Conclusion

With regard to the present composition claims 31 to 49, they do not merely relate to an aqueous gelant emulsified in oil but rather an aqueous gelant emulsified in oil which has the property of reducing water permeability more than oil permeability in a subterranean reservoir.

It is not at all apparent that any of the cited references, alone or combined, have this property.

With regard to process claims 51 to 68, it is further apparent that the presently recited process for reducing water permeability more than oil permeability in a subterranean reservoir by use of the presently recited composition is even further remote from the cited references, alone or combined.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Arne STAVLAND et al.

By: Matthew M. Jacob

Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

MJ/kes
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
June 2, 2005